DoD VPP CX

Development, Validation, Implementation and Enhancement of a Voluntary Protection Programs Center of Excellence (VPP CX) Capability for Department of Defense (DoD)

Lean / Six Sigma and VPP

DoD Lead Agent:
Office of the Assistant Secretary of the Army (Installations and Environment)

Department of Defense Voluntary Protection Programs Center of Excellence

Operated by:
CTC Concurrent Technologies Corporation

Objectives

After this training you will be able to:

- Describe the Lean and Six Sigma approaches
- Understand how Lean / Six Sigma compliment VPP
- Identify the five steps of the Six Sigma Process
- Describe Lean 5S
- List the benefits of Lean / Six Sigma
- Define the role of Leadership in Lean / Six Sigma.

Lean and Six Sigma

- Lean focuses on process flow and removal of waste
  - 5S is the simplest of the Lean tools.
- Six Sigma is a data driven statistical process control
- Lean and Six Sigma compliment each other in a culture of continuous improvement.

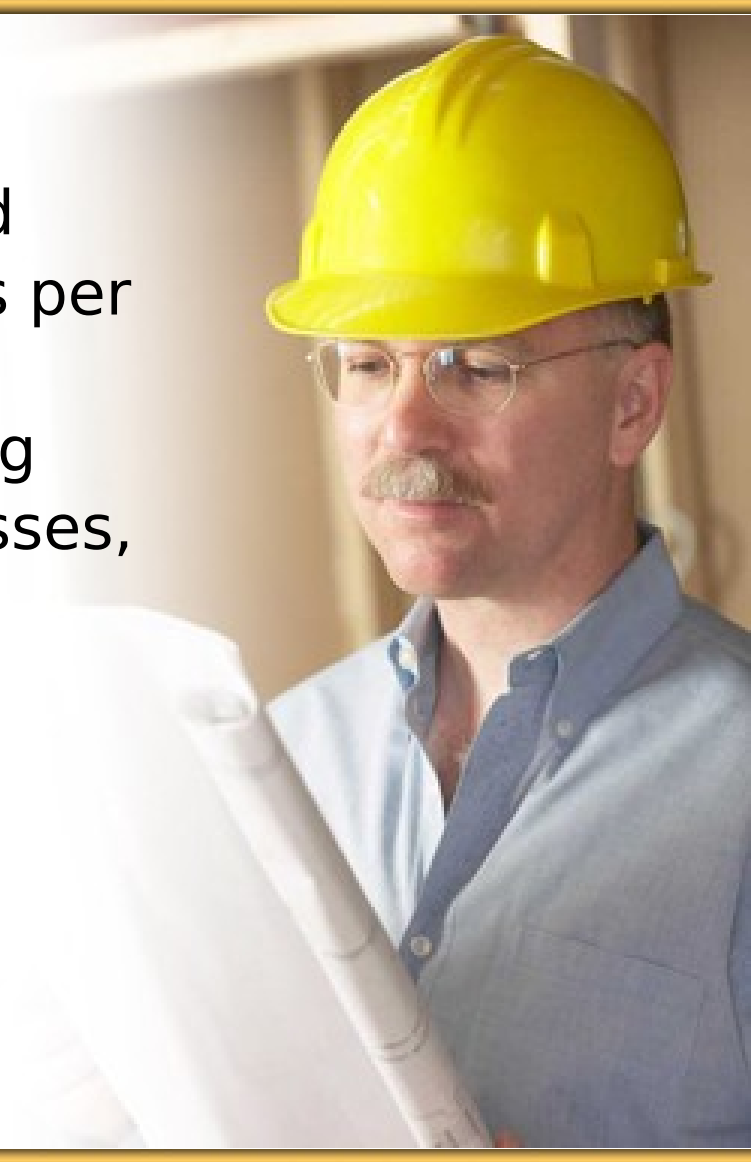
Lean / Six Sigma Tools

- Tools in Lean / Six Sigma to use with the Health and Safety Processes:
  - Failure Mode Effects Analysis (FMEA) – Process Hazard Analysis
  - Cause and Effect Analysis – Root Causes
  - Rapid Problem Solving (5 WHYs) – Accident Investigations
  - MUDA (waste) Walk – Health and Safety Inspections
  - Mistake/error Proofing – Preventive and Corrective Actions.

Six Sigma

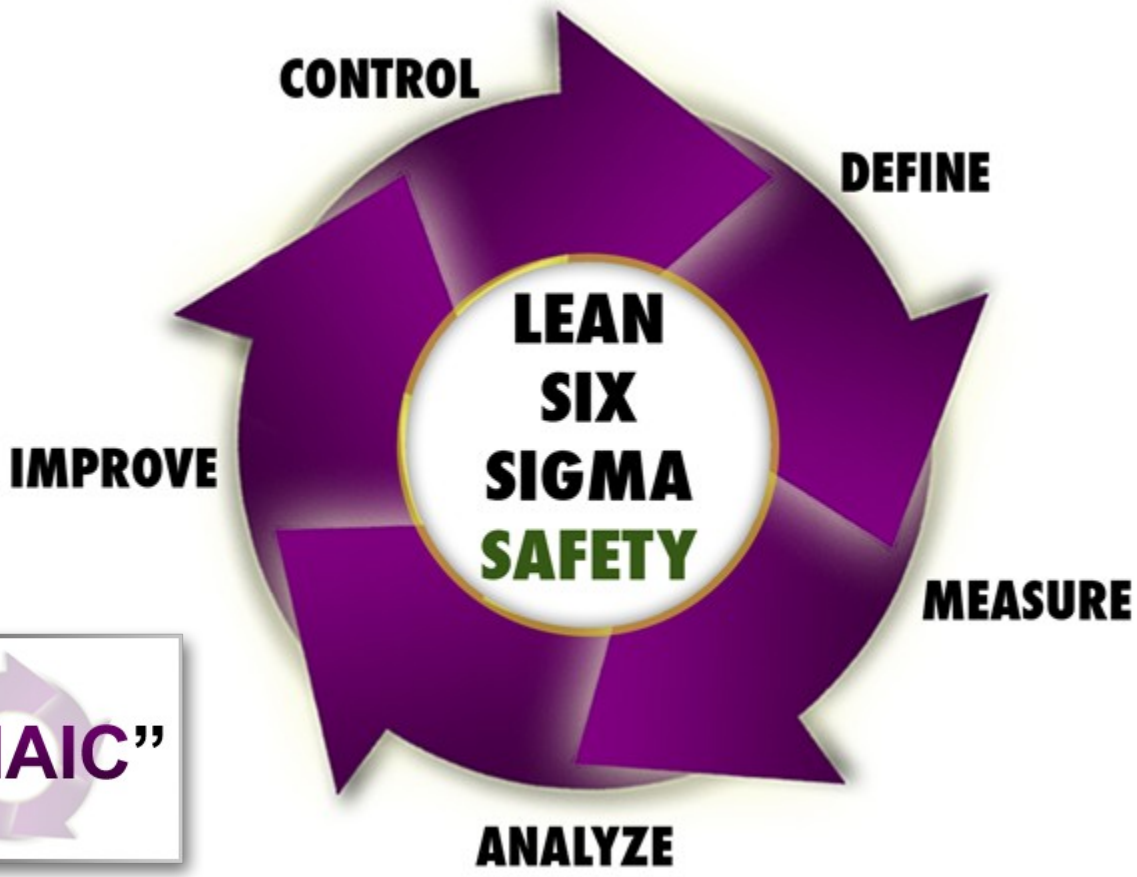
Six Sigma

- Six Sigma is a:
  - Goal where organizations should operate at less than 3.4 defects per million opportunities
  - Philosophy dedicated to reducing defects and variations in processes, products and services
  - Metric where communication is more effective by using the same standards throughout the organization.



Six Sigma Process

- There are five steps to the Six Sigma process:
  - **D**efine Phase
  - **M**easure Phase
  - **A**nalyze Phase
  - **I**mprove Phase
  - **C**ontrol Phase.



Systematic Improvement Methodology ≅ "DMAIC"

Six Sigma – Define Phase

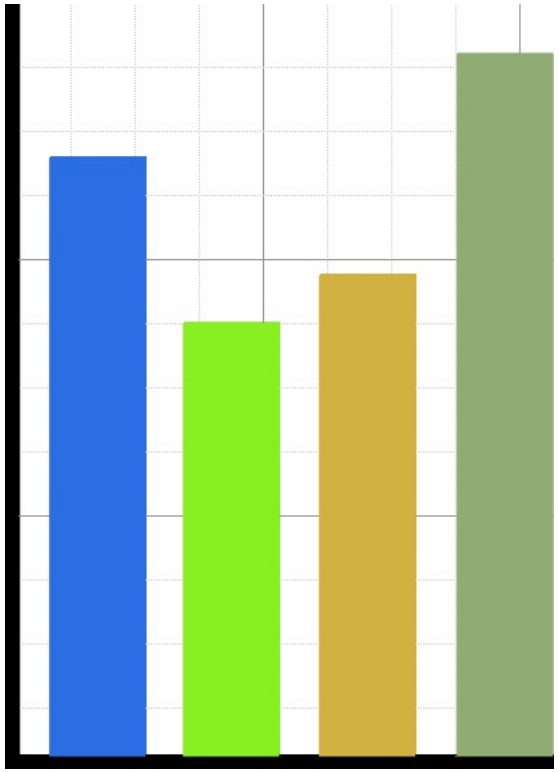
- The Define Phase objective is to understand the requirement, goal(s) and current process.
  - Define the safety or health requirements and goal(s)
  - Define how the current process works.

Six Sigma – Measure Phase

- The Measure Phase objective is to assess current safety performance
  - Define incident, near misses, severity, potential hazard, etc.
  - Develop data collection system, gather incident information and measure baseline performance
  - Identify areas with most incidents or highest risk (i.e. the critical few).

Six Sigma – Analyze Phase

- The Analyze Phase objective is to determine which safety problems to solve in what order
  - – Evaluate and prioritize work activities associated with incidents
  - – Determine root causes and possible countermeasures
  - – Identify and prioritize gaps in current process.



Six Sigma – Improve Phase

- The Improve Phase objective is to identify and implement optimal change solutions
  - Evaluate and prioritize corrective / preventive measures
  - Eliminate incidents through process re-design and error proofing
  - Deploy effective corrective/ preventive measures.

Six Sigma – Control Phase

- The Control Phase objective is to sustain, enhance and improve process performance

  – Continuously evaluate and improve, using the Plan, Do, Check, Act (PDCA) Cycle.

Lean 5S

Lean 5S Process

- Lean 5S is a Japanese technique of good housekeeping and workplace organization beginning in the 1960's and was exported to American companies in the 1980's. This process consists of five parts:

  – Sort = Keep only what is needed

  – Store = Put everything into order

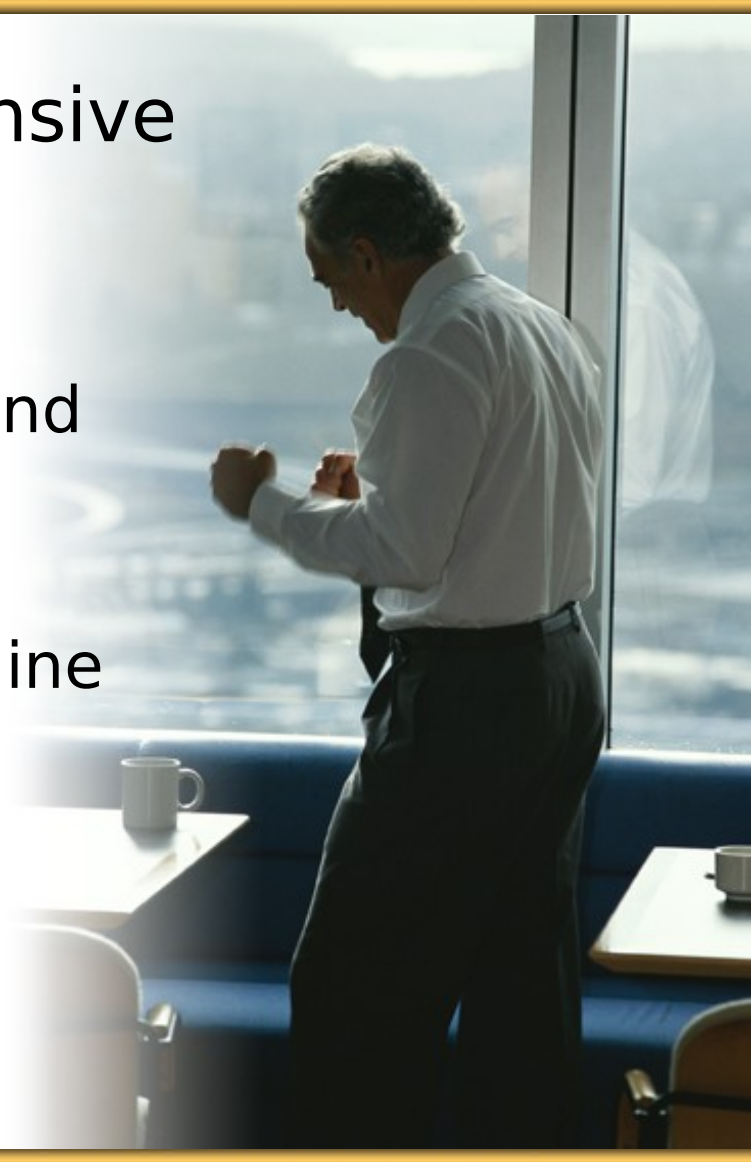
  – Shine = Clean everything

  – Standardize = Make standards visually obvious

  – Sustain = Follow your standards.

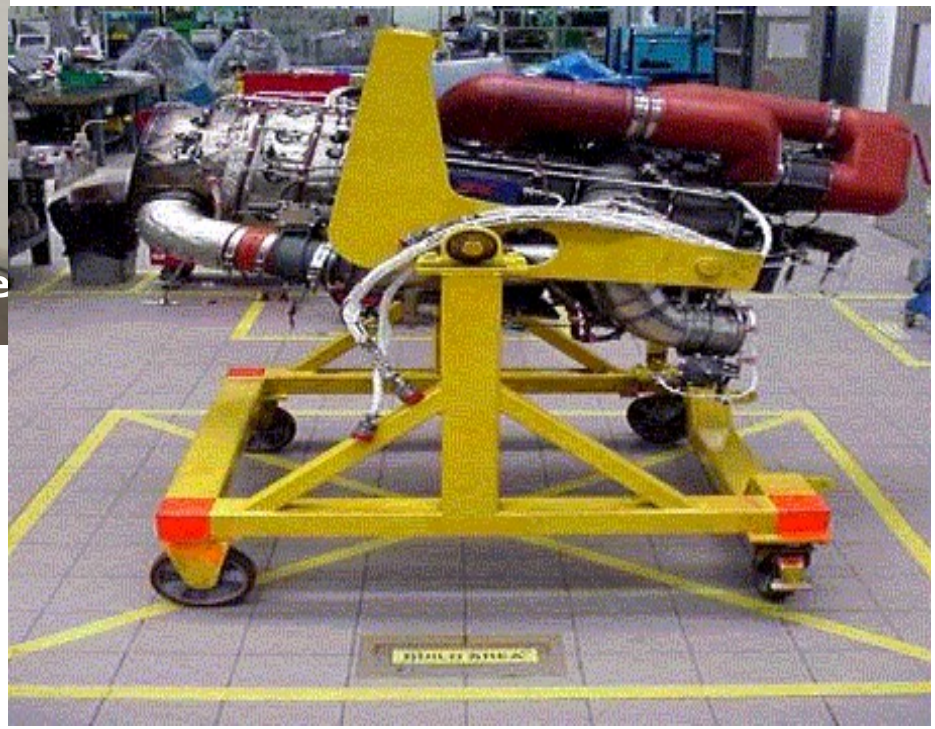
Lean 5S

- Lean 5S is a simple, inexpensive system available to:
  - Reduce waste
  - Improve productivity, quality and safety
  - Help retain good employees and contribute to the bottom line year after year.



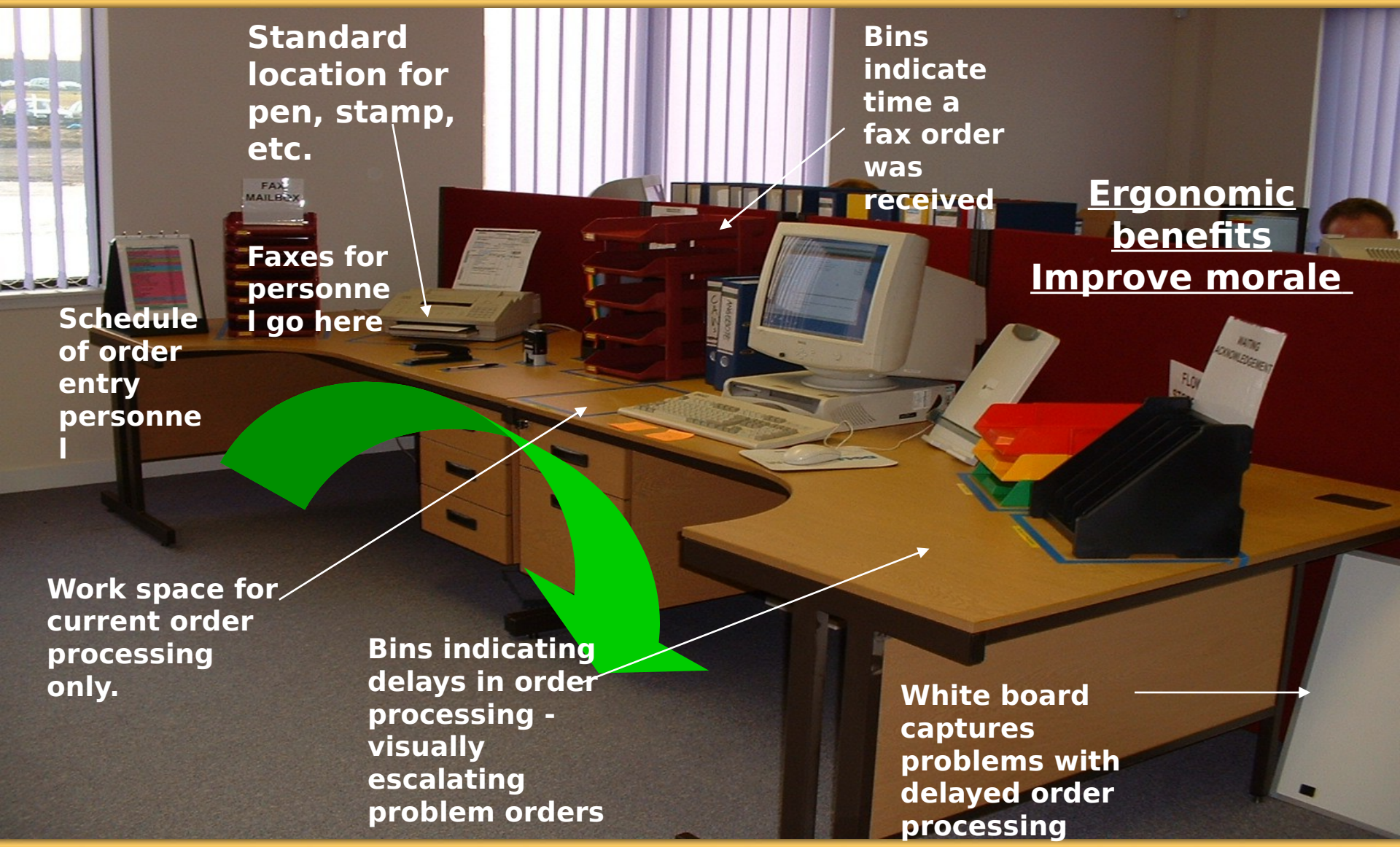
Good Floor Examples of 5S

Improves production while avoiding safety and health incidents



Reduces trip hazards
Less fatigue
Fewer ergonomic incidents

Good Office Examples of 5S


Standard location for pen, stamp, etc.
Bins indicate time a fax order was received
Ergonomic benefits
Improve morale
Faxes for personnel go here
Schedule of order entry personnel
Work space for current order processing only.
Bins indicating delays in order processing - visually escalating problem orders
White board captures problems with delayed order processing

Lean / Six Sigma

Lean / Six Sigma Success

- To achieve success in the Lean / Six Sigma Process:
  - Obtain the commitment and involvement of all employees at all levels of the location
  - Get Leadership out onto the floor
  - Ensure proper training and tools before implementation.

Benefits of Lean / Six Sigma

- Expands health and safety participation in safety and health management beyond medical/safety staff:
  - Reduces stove piping and promotes team building
  - Improves communication and awareness.
- Integrates health and safety planning in existing Lean / Six Sigma Program
  - Reduces costs, timeline and incident levels.

Leadership Role

Leadership Role

- Promote inclusion of safety and health in all Lean / Six Sigma Events
- Provide cross training opportunities for office/operations/professional personnel
- Personally participate in Lean / Six Sigma Event(s)

Lead by Example”

Summary

In this section you learned about:

- The Lean and Six Sigma approaches
- How Lean / Six Sigma compliment VPP
- The five steps of the Six Sigma process
- Lean 5S
- The benefits of Lean / Six Sigma
- The role of Leadership in Lean / Six Sigma.

Questions?